

## ELECTRONIC DEVICE AND METHOD FOR CONTROLLING THE SAME

### CROSS-REFERENCE TO RELATED APPLICATION(S)

[0001] This application claims priority to the Chinese Patent Application No. 201510603919.4, filed on Sep. 21, 2015, entitled "ELECTRONIC DEVICE AND METHOD FOR CONTROLLING SAME" which is incorporated herein by reference in its entirety.

### TECHNICAL FIELD

[0002] The present disclosure relates to electronics technology, and more particularly, to an electronic device and a method for controlling the electronic device.

### BACKGROUND

[0003] With the rapid development of electronics technology, electronic devices, such as smartphones, tablet computers and smart watches, become increasingly popular and make people's daily lives more convenient.

[0004] At present, electronic devices typically have screens made of glass panels or is polymer layers. Due to very low strength of such compositions, the screens of electronic devices may be easily damaged in use.

### SUMMARY

[0005] It is an object of the embodiments of the present disclosure to provide an electronic device and a method for controlling the electronic device, capable of solving the above problem associated with fragility of the screens of electronic devices in use.

[0006] In a first aspect, an electronic device is provided according to an embodiment of the present disclosure. The electronic device comprises: a display unit having an electro-deformable layer provided on its surface; a detection unit configured to detect a state parameter of the electronic device; a power supply unit configured to supply current; and a processing unit electrically connected with the display unit, the detection unit and the power supply unit, respectively, and configured to determine whether the electronic device is in a predetermined state based on the state parameter and, upon determining that the electronic device is in the predetermined state, instruct the power supply unit to apply a predetermined current to the electro-deformable layer, such that a strength of the electro-deformable layer is increased from a first, default strength to a second strength.

[0007] Optionally, the state parameter is a pressure parameter. The detection unit comprises a first detection module configured to detect the pressure parameter on the surface of the display unit. The processing unit is configured to determine whether the electronic device is in the predetermined state based on the state parameter by: determining that the electronic device is in the predetermined state when the pressure parameter is larger than or equal to a predetermined threshold.

[0008] Optionally, the state parameter is an orientation parameter. The detection unit comprises a second detection module configured to detect the orientation parameter of the electronic device. The processing unit is configured to determine whether the electronic device is in the predetermined state based on the state parameter by: determining

that the electronic device is in the predetermined state when the orientation parameter indicates that the display unit faces ground.

[0009] Optionally, the state parameter is a motion parameter. The detection unit comprises a third detection module configured to detect the motion parameter of the electronic device. The processing unit is configured to determine whether the electronic device is in the predetermined state based on the state parameter by: determining that the electronic device is in the predetermined state when the motion parameter is larger than or equal to a predetermined threshold.

[0010] Optionally, the processing unit is further configured to obtain a predetermined instruction and, in response to the predetermined instruction, instruct the power supply unit to apply a predetermined alternating current to the electro-deformable layer, such that a deformation of the electro-deformable layer in a direction perpendicular to the surface of the display unit changes periodically.

[0011] Optionally, the processing unit is configured to obtain the predetermined instruction by generating and obtaining the predetermined instruction upon detecting that the display unit has switched from a non-operating state to an operating state.

[0012] Optionally, the display unit is an e-paper display screen.

[0013] In a second aspect, a method for controlling an electronic device is provided according to an embodiment of the present disclosure. The electronic device comprises a display unit having an electro-deformable layer provided on its surface. The method comprises: detecting a state parameter of the electronic device; determining whether the electronic device is in a predetermined state based on the state parameter; and applying, upon determining that the electronic device is in the predetermined state, a predetermined current to the electro-deformable layer, such that a strength of the electro-deformable layer is increased from a first, default strength to a second strength.

[0014] Optionally, the state parameter is a pressure parameter on the surface of the display unit. The step of determining whether the electronic device is in the predetermined state based on the state parameter comprises: determining that the electronic device is in the predetermined state when the pressure parameter is larger than or equal to a predetermined threshold.

[0015] Optionally, the state parameter is an orientation parameter of the electronic device. The step of determining whether the electronic device is in the predetermined state based on the state parameter comprises: determining that the electronic device is in the predetermined state when the orientation parameter indicates that the display unit faces ground.

[0016] Optionally, the state parameter is a motion parameter of the electronic device. The step of determining whether the electronic device is in the predetermined state based on the state parameter comprises: determining that the electronic device is in the predetermined state when the motion parameter is larger than or equal to a predetermined threshold.

[0017] Optionally, the method further comprises: obtaining a predetermined instruction; and applying, in response to the predetermined instruction, a predetermined alternating current to the electro-deformable layer, such that a defor-